

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

In re Application of : Len C. Kretchman et al
For : "Sealed Crustless Sandwich"
Serial No. : 90/005,949
Filed : March 9, 2001
Patent No. : 6,004,596
Examiner : George C. Yeung
Group Art Unit : 1761
Our Docket No. : SMA-12271 RX

DECLARATION OF LEON LEVINE

I, Leon Levine, being warned that false statements and the like are punishable by fine or imprisonment or both under 18 U.S.C. § 1001 hereby declares that all statements made of his own knowledge are true and any statements made on information and belief are believed to be true.

1. Attached hereto as Exhibit A is my resume showing my expertise in the field of processing of food items for commercial retail marketing.

2. I have reviewed and read several documents I have been informed were relied upon by the United States Patent and Trademark Office (PTO) in reexamining Kretchman 6,004,596 (the '596 patent). In addition, I have reviewed new claims 43-52 (Exhibit B) and the specification of the '596 patent.

3. The crustless sandwich defined by the combination of elements in claims 43-52 is not taught or suggested by any prior art I have considered in my study of this matter.

4. In food technology, bread is a baked starch product having an outer crust and a body containing air bubbles giving the product a known texture. When bread is highly compacted, the air bubbles are removed and the bread texture is changed into a tougher consistency. This phenomena was used in my analysis of prior art cited by the PTO in the reexamination of the '596 patent.

5. The description of the crustless bread in the '596 patent defines an outer surface-to- surface seal caused by compression of the outer rim of one bread portion onto the outer rim of the other bread portion. In the patent this rim is a circular perimeter. This compression provides a surface seal between the bread portions. To increase the holding force, the '596 patent uses spaced depressions 28. These cause a reduction in the air bubbles at only the pressure points and does not appreciably distort the surface seal. Such sealing action is shown in the sketch labeled FIG I of attached Exhibit C. The surface-to-surface seal is the flat, dashed line. The pressure points are shown in cross-hatching. These spaced pressure points prevent the crimped edge 26 from separating. (Col. 3, line 20) As shown in Figure 3 of the '596 patent, the compression seal does not join the bread into a mass but leaves the two individual slices of bread essentially intact as shown. This illustrated result indicates that the bread is not crushed together. This compression seal gives a sealed edge structure as shown in Fig. IV of Exhibit C. A surface-to-surface seal around the central filling is best shown in Figure 4 of the '596 patent. By using the surface-to-surface edge seal, the perimeter edge of the crustless sandwich is held together without highly compacting the total outer perimeter. Such compacting of the bread

would give a tough consistency and compact the bread edges together into a single mass of dough. This would not be consistent with an objective of forming a product considered by the eater as a conventional sandwich.

6. I have studied Caveza 5,387,149 (the '149 patent) relating to a single layer of dough from a single slice of bread rolled flat to form a dough. The compacted bread is folded over and sealed by two undulating members. The '596 patent includes a flat sealed surface as shown in FIG. I of Exhibit C. In a second version, there are spaced pressure points. However, the seal joint in the '149 patent is undulating and compacted into a dough-like mass. This procedure drastically increases the length of the sealing joint line to stretch the dough-like mass, thus further converting the structure from normal bread consistency required for a "sandwich" to a compacted layer of dough-like material. The undulating, stretched seal line is like the joint of a pie dough crust. Such joint is not remotely similar to the crimped edge of the '596 patent. It is not like a "conventional sandwich." If one were to use the '149 patent disclosure, there would be no construction of a surface-to-surface edge seal as shown in Figure 4 of the '596 patent. Such sealed joint of compacted bread is technically different in structure and result from the sandwich of the '596 patent.

7. I have studied Funabashi 4,608,918 (the '918 patent), where a blade 2 cuts the crust from two stacked slices of bread. A shoulder 3 seals the cut bread, as shown in Figure 4 of the '918 patent. This drawing shows an outer periphery where the two layers of bread are joined by a force that compacts the layers and removes any distinction of the two bread portions. The bread remains intact in the sandwich shown in Figure 3 of the '596 patent. There is a reason for using a periphery compression operation. Since the height of shoulder 3 from the end of blade 2

is fixed, bread layers having different thickness and different sealing capabilities (by the different moisture contents), demand the bread layers be highly compacted. The shoulder can not operate separately from the blade, as disclosed in the '596 patent. This allows the '596 patent to cut and then surface-to-surface seal the perimeter area of the bread layer by vertical compression with the force that can be tailored for each particular sets of bread layers. The perimeter seal of the '918 patent is completely different from the perimeter seal of the '596 patent, by technical necessity. To assure a holding joint when the shoulder is at a fixed height, the bread must be compacted together like the crust of a pie. The results of this procedure is shown in FIG. III of Exhibit C. The cross-hatching depicts a mass of bread with the air forced out to mold the bread together like a "dough ball." This is the process disclosed in the '918 patent. If this compacted perimeter were frozen, it would become brittle and could even crack. Further, the mouth feel of a compacted perimeter is inconsistent with expectations for a conventional peanut butter and jelly sandwich. The result of a process as disclosed by the '918 patent is shown in FIG V of Exhibit C. The structure has no bread joint at the sealing surface. The bread is compacted into leather-like consistency.

The seal at the perimeter of the '918 patent is not the same as the perimeter seal in the attached claims (Exhibit B) or a sandwich as disclosed in the '596 patent. There would be no reason, suggestion or motivation to change the seal of the '918 patent into the seal defined in the attached claims. Indeed, the '918 seal may be considered necessary when using a fixed shoulder height.

8. I have studied Sollerud 3,782,270 (the '270 patent). A reproduction of Figure 5, previously marked "Exhibit 12", is attached hereto as Exhibit D. The "food unit" has a squeezed


off line contact seal. A line contact cuts the bread crust from the "unit." The seal is not formed by two surfaces compressed together around the periphery of previously cut bread slices. There is no compression of the perimeter area in forming a surface-to-surface contact seal. This squeeze off line joint may or may not lock the bread portions together. Indeed, it may not even cut the bread crust off cleanly. Clearly, the squeezed off edge is not like the perimeter edge seal of the '596 patent. This line contact joint is distinguished from the surface-to-surface seal of the attached claims. There is no way to make spaced depressions when using the cutting equipment of Sollerud 3,782,270. This cutting equipment could not make the patented seal shown in Exhibit E. Use of the squeeze off cut joint of the '270 patent could not make the seal of the '596 patent. Again, the bread at the cut joint would be compressed without air bubbles. This is different from the concept of the '596 patent. If the two matching surfaces used to cut the bread are not exactly machined, the bread will not be cut away.

9. In Exhibit E, the crustless "sandwich" of the '596 patent is shown to have a crimped perimeter edge with a surface-to-surface compression seal. The seal has a width a. To increase the holding force of the joint, spaced depressions in the top bread are used. Not one of the patents discussed herein disclosed such surface-to-surface compression seal of the perimeter of bread layers. Each patent has a different sealing procedure. There is no suggestion, reason or motivation to abandon the structure of Sollerud, Funabashi or Caveza and replace the disclosed prior art joint with the perimeter seal of Exhibit E reproduced from Figure 4 of the '596 patent.

10. Exhibit E also discloses a jelly layer encapsulated by two peanut butter layers with a perimeter surface-to-surface seal with a width b. The structure encapsulates the jelly and isolates the jelly from the outer surface-to-surface seal of bread. These two perimeter

surface-to-surface seals constitute the combination of the attached claims. Even if a person skilled in the art of making retail food items from bread or dough replaced the joint in Sollerud, Funabashi or Caveza with the perimeter seal of the '596 patent, which is not suggested or based upon a technical reason, the crustless sandwich would not have the claimed peanut butter and jelly construction shown in Exhibit E and defined in the attached claims.

11. In my opinion, to duplicate the crustless sandwich shown in Exhibit E and defined in the attached claims, a person skilled in this art would have to have the claims as a guide.


LEON LEVINE

Date: Feb 28, 2002

City: Albuquerque, NM

RESUME/CV

Leon Levine
12815 Sandia Ridge Place NE
Albuquerque, New Mexico 87111

Education

BSChE - City College of New York
MSChE - City University of New York
PhD Bio/Ag Eng(expected, 2002) - Purdue University

Additional graduate studies in electrical engineering
at the University of Minnesota.

Professional Activities

American Institute of Chemical Engineers
Institute of Food Technologists
American Association of Cereal Chemists
Participant in IFT Workshop on Research Needs - 1984
Industrial Representative on Natick Laboratories'
Demonstration Project for Production of Military
Rations - 1985
Chairman of Technical Session, Minnesota AIChE, 1987
Chairman of Symposium on Food Process Scale-up, and
Dough Processing Operations, National Meetings of
AIChE, 1987
Candidate for 2nd Vice Chairman of the Food,
Pharmaceutical, and Bioengineering Division of the
AIChE, 1987, 1988.
Chairman of Technical Symposium on Food Extrusion and
Drying, COFE, Chicago, 1991
Chairman of Technical Symposium on Food Engineering,
IFT, Dallas, 1991
Chairman of Technical Symposium on Food Engineering,
Food Focus, AACC, Minneapolis, 1991
Chairman of Technical Symposium on Unit Operations
Based on Mechanical and Thermal Energy, Meeting of
Research and Development Associates for Military
Food and Packaging Systems, Boston, 1991.
USDA Value Added Processing, Reviewer, 1993, 1997
Chairman, International Extrusion Symposium, Sydney,
Australia, 1993
Chairman of Technical Symposium Pilot Plants and
Scale Up, COFE, Chicago, 1995
Editorial Board, Journal of Food Process Engineering,
1994-
Editorial Board, Journal of Food Engineering, 1995-
Quarterly columns on food engineering have appeared
Cereal Foods World, 1987 - .

Honors

"Young Chemical Engineer of the Year", 1978,
Minnesota Section of the American Institute of
Chemical Engineers.

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Seligman-APV Lecturer, SCI, 1996

Listed in "Who's Who in Technology", 1984

Listed in "Who's Who in Science & Engineering, 1993

Teaching and Related Experience

"Food Process Engineering" (senior and graduate level course) was taught at the University of Minnesota, Department of Food Science and Nutrition, Spring Quarter, 1985 and Winter Quarter, 1986

For most of 25 years in the food industry a significant fraction of efforts and responsibilities have been to train recent engineering and food science graduates.

Since 1989, the following short courses that I direct and teach have been scheduled by Rutgers University:

"Selected Topics in Food Engineering"

"Food Engineering for Non-engineers

"Solving Problems in Food Process Scale-up"

Since 1988, the American Association of Cereal Chemists schedules the following short course that I direct and teach:

"Food Extrusion"

Since 1995, The American Institute of Baking has offered the follow course for which I am part of the faculty

"Process Engineering for Dough Systems"

Various versions of these course are regularly taught to private clients.

In addition, I regularly guest lecture and periodically participate in graduate and undergraduate seminars at several universities.

Papers, Publications, and Patents

"The Adsorptive Bleaching of Vegetable Oils", presented in 1972 at the national meeting of The American Oil Chemists Society, New Orleans.

"Estimating Output and Power of Food Extruders", presented in 1981 at the national meeting of The American Institute of Chemical Engineers, Detroit. Published in The J. of Food Proc. Eng. June 1983.

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"Throughput and Power Consumption of Dough Sheetting Rolls", presented in 1983 at the national meeting of The American Institute of Chemical Engineers, Denver. Published in The Journal of Food Process Engineering, June 1985.

"Automatic Control of Moisture in Food Extruders", presented in 1984 at the national meeting of The American Institute of Chemical Engineers, San Francisco. Published in The Journal of Food Process Engineering, September 1985.

"Simplified Models for Estimating the Operating Characteristics of Food Extruders", presented in 1984 at the national meeting of The American Institute of Chemical Engineers, San Francisco. Published in Biotechnology Progress, June 1985

"A Correlation for Heat Transfer Coefficients in Food Extruders" has been published in Biotechnology Progress, September, 1986.

"Food Process Scale-up" was presented at a special session of the Food & Dairy Expo, Atlanta, October, 1985. This presentation was sponsored by The American Society of Agricultural Engineers, Atlanta.

"Industrial Needs for Scale-up and Design of Extruders" was presented, in March 1986 at a symposium entitled, "Extrusion Cooking and Rheology of Foods", sponsored by the Institute of Advanced Food Research of Rutgers.

"Some Aspects of the Dynamic Behavior of Foods Extruders" was presented in November, 1985 at the national meeting of The American Institute of Chemical Engineers, Chicago, and has been published in Biotechnology Progress, December, 1987.

"Some Aspects of the Behavior of Starved Extrusion Screws" was presented at the national meeting of the American Institute of Chemical Engineers, Boston, August, 1986, and has been published in Biotechnology Progress, December, 1987.

"Introduction to Machine Vision Applications in Food Processing" was presented at the annual meeting of the Wisconsin Food Processor Association, in Madison, Wisconsin, March, 1987

"Overview of Vision Technology" was presented at the August, 1987 meeting of the AIChE, in Minneapolis, Minnesota

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"Coming to Grips with Rheology" was published in Viscous Products, October, 1986

"An Introduction to the Measurement of Viscosity" was published in Viscous Products, February, 1987.

"Comparison of Mathematical Models for Dough Being Sheeted Through Rolls", was presented at the August, 1987 meeting of the AIChE., in Minneapolis, Minnesota

"Elementary Concepts in Extruder Performance" was presented at the AACC short course on extrusion in San Antonio, May, 1988.

"Scale-up of Food Extruders" was presented at the AACC short course on extrusion in San Antonio, May, 1988.

"The Need for Continuing Education in Food Extrusion" was published in Food Engineering, September, 1988.

"A Simple, Qualitative, Model for Exploring the Effects of Twin Screw Extruder Configuration" was presented at the August 1988 meeting of the AIChE., in Denver, Colorado.

"Numerical Solution to a Problem in the Flow of Viscoelastic Fluid between Rotating Cylinders" was presented at the July, 1988 meeting of SIAM, in Minneapolis. Minnesota.

"Understanding Extruders" was published in Cereal Foods World, December, 1988.

"The Role of Rheology in Food Extrusion" was presented at the AACC short course on extrusion in Orlando, May, 1989.

"Use of Computer Vision for Real Time Determination of Volume Increase of Microwave Baked Products" was published in Cereal Chemistry, January, 1990.

"Some Aspects of Instabilities of Food Extruders" was presented, in August, 1990 at a symposium entitled "Extrusion Cooking and Rheology of Foods", sponsored by the Center for Advanced Food Research of Rutgers.

"The Fluid Mechanics of Cookie Dough Extruders" was presented at the Summer Meeting of the AIChE, Minneapolis, 1992 and published in the Journal of Food Process Engineering, September, 1992.

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"Advances in Sheetting Operation Design Principles" was presented at the 1991 meeting of Research and Development Associates for Military Food and Packaging Systems. Boston, 1991, and published in Activities Report, Volume 44, No.1, 1992.

"A Comparison of Single and Twin Screw Extrusion was presented at the AACC short course on extrusion in Grand Rapids, March, 1994.

"Understanding Extrusion" was presented at the AACC short course on cereal science and technology in Minneapolis, May, 1993.

"Cooking and Extrusion" was presented and the AACC short course on breakfast cereal technology, Minneapolis, November 1991.

"Principles of Continuous Sheetting & Laminating" was presented at the AIB short course on grain foods process systems technology, Manhattan, KS., June 1994

"Can Engineers and Food Scientist Communicate" was presented at the August, 1994 meeting of AIFST, Sydney, Australia.

"Estimating Sheetting Closing Forces from Power Measurements" has been published in the Journal of Food Process Engineering, April, 1996.

"Dynamics of Heat Transfer in Fryers/Kettles" was presented at the AIB short course on applied process technology, Kansas City, Sept. 1995.

"The Engineering Aspects of Differential Rolling Operations" is being prepared for publication and was presented at the 1995 meeting of COFE, Chicago and published in Cereal Foods World, August, 1996.

"Modeling in Process Development and Scale Up - An Engineer's Personal Perspective" was presented at the grand annual meeting of Society of the Chemical Industry, London, June, 1996.

"Advances in the Modeling of Dough Rolling Systems" was presented at the August, 1996 meeting of AIFST, Sydney, Australia.

"The Fundamentals of Dough Rolling Operations" has been published an AIB Technical Bulletin in August, 1998.

"A Preliminary Investigation of the Deformation of Cereal Pellets by Flaking Rolls" was published in

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Cereal Foods World, June, 1997.

"Food Process Development and Scale Up Using Modeling and Simulation" was published in Chemistry and Industry, May, 1997.

"A Refinement of Sheeting Models: Accounting for Dough Compressibility", was published in Cereal Foods World, August, 1998.

"Avoiding Unsuccessful Scale Ups", was presented at the April, 1999 meeting of PMCA, Hershey, Pa. and was published in The Manufacturing Confectioner, June 1999.

"A Preliminary Investigation of the Mechanics of Cereal Flaking", was presented at 6th COFE, AICHE National Meeting, Dallas, November, 1999, and published the proceedings of that meeting.

"Factors in the Performance of Dough Mixers" was presented at the AIB short course on dough processing technology, Kansas City, August, 1999.

"Dealing with Twin Screw Extruder Geometry" was presented at the Smart Extrusion Seminar sponsored by AFISC, Sydney, Australia, September, 1999.

"Scale Up: Pilot Plant to Plant was presented at the technical meeting of the Association for Dressings and Sauces, Baltimore, May, 2000.

"A Model Describing Finite Width Calendaring" is being prepared for Chemical Engineering Science.

"Sheeting/Rolling of Finite Width Sheets. Estimation of Final Sheet Width and Roll Forces and Power" was published in Cereal Foods World, February, 2001

"Attacking Scale Up Problems" was presented to the Australian Food Engineering Association, Sydney, March, 2001.

"Advances in Sheeting and Mixing Technology was presented at the International Wheat Quality Conference II, Manhattan, Kansas, May, 2001, and will be published in the proceeding of that meeting.

"Comparison of the Rheology of Regular and Reduced Calorie Pancake Syrups" has been submitted to the International Journal of Food Properties, June, 2001."

"An Engineering Analysis of the Residence Time Distribution of Preconditioners is being prepared for

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Cereal Foods World.

"An Approximate Modeling for Estimating the Power and Closing Forces of Flaking Rolls" is being prepared for the Journal of Food Engineering.

"An Analysis Preconditioner of the Residence Time and Residence Time Distributions" is being prepared for Cereal Foods World.

"Tempering and Flaking" was presented at the AACC short course on breakfast cereal technology, Stuttgart, January, 2002.

The following texts have been, or are being authored.

"Food Processing Operations and Scale-up", with J. P. Clark and K. Valentas, has been published by Marcel-Dekker, New York in November 1990.

A chapter in "Extrusion Cooking", Edited by Drs. J. Harper and C. Mercier, has published by the American Association of Cereal Chemists, St. Paul, May 1989. A chapter on the sheeting and laminating of doughs, with B. Drew, in "Dough Rheology and Baked Product Analysis", edited by Dr. H. Faridi, has been published by Rheinhold/AVI, New York, October 1990.

A chapter on the integration of computers in food processing with S. Saguy, E. Rotstein, and S. Symes, has been published in "Biotechnology and Food Process Engineering" by the Institute of Food Technologist, Chicago, June, 1990

A chapter on extrusion in "Food Engineering Handbook" edited by Drs. D. Lund and D. Heldman has been published by Marcel-Dekker, New York, 1992

A chapter on dough processing in "The Handbood of Engineering Practice" edited by Drs. K. Valentas and E. Rothstein was published by Marcel-Dekker, New York, July, 1997.

A chapter on the rolling and laminating of cookie and cracker doughs, with B. Drew, in "The Science of Cookie and Cracker Technology", edited by Dr. H. Faridi, has been published by Chapman and Hall, New York, January, 1994.

A chapter on extrusion stability, with S. Symes, in Food Extrusion Science and Technology, edited by Drs. J. Kokini, C.T. Ho, and M.V. Karwe, has been published by Marcel Dekker, New York, December, 1991.

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A chapter on cereal flaking in "Breakfast Cereals and How They are Made", Ed. II, edited by Dr. E Caldwell and R. Fast, has been published by the AACC, St. Paul, Minnesota, April, 2000.

A chapter entitled "Residence Times Distributions in Extruders" is being prepared for The Encyclopedia of Agricultural and Food Engineering, Marcel-Dekér, 2001.

The following patents have been obtained.

U.S. Patent #3,673,228, "Process for Bleaching of Edible Oils.

U.S. Patent #3,956,517, "Method of Forming Rippled Snack Products.

U.S. Patent #4,035,402, "Process for Dewaxing Vegetable Oils.

U.S. Patent #5,039,534, "Pea Separating Apparatus and Method of Use"

U.S. Patent #5,165,950, "Microwave Expandable Half Product and Process for its Manufacture"

Industrial Experience

Leon Levine & Associates, Inc.
2665 Jewel Lane
Plymouth, Minnesota

1/86- Consultant to food, pharmaceutical, cosmetics, and other consumer products companies.

The Pillsbury Company
311 2nd Street SE
Minneapolis, Minnesota

9/82- Senior Research Scientist, Consumer Engineering
1/86

Primary responsibilities include functioning as an in-house consultant for the analysis and solution of problems in process design, scale-up, and start-up, and the demonstration of the feasibility of the application of new technologies. Major accomplishments include:

1. Demonstration of the feasibility of the

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- application of machine vision for automated inspection.
- 2. Demonstration of an improved process for the preparation of sausage used for pizza manufacture.
- 3. Demonstration of a process for the separation of popcorn for improved popping performance.
- 4. Elucidation of the fluid mechanics involved in the sheeting of doughs and their implications on the behavior of dough products.
- 5. Implementation of an improved method for continuous cleaning of frying oil.
- 6. Demonstration of an improved method for forming snack bars.
- 7. Solution of scale-up and start-up problems for a soft serve ice cream product.
- 8. Demonstration of improved control techniques for the separation of peas before canning.
- 9. Demonstration of methods for increasing the capacity of corn freezers.
- 10. Implementation of a facility for on-site manufacturing of pasta at Green Giant facilities.

4/77- Senior Research Scientist, Research and Development
8/82

Primary responsibilities include the evaluation of new technologies and the improvement of existing processes and products. Major accomplishments include:

- 1. Reformulation and process improvements on ready to spread frostings.
- 2. Preparation of design criteria for American Beauty pasta manufacturing facilities and the implementation of design improvements.
- 3. Development of a package, its associated fabrication machinery and components for the improved microwave preparation of foods.
- 4. Demonstration of new process for the preparation of a quick cooking pasta product.
- 5. Solution of start-up and scale-up problems associated with Pasta Perfect.

1/76- Section Manager, Research and Development
3/77

Primary responsibilities were the supervision of a section charged with development of new products, and their associated processes, which were suitable for vending machine distribution. Major accomplishments include:

- 1. Preparation of design criteria for the production of popcorn, pizza, pancakes, and

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- desert products.
2. Development of the formulations for several varieties of pizza, pancakes, and deserts.
3. Demonstration of a novel package which improved microwave performance of crisp foods.

The Procter and Gamble Company
6071 Center Hill Road
Cincinnati, Ohio

6/72- Group Leader, Pringles Section
12/75

Primary responsibilities included R&D liaison in the design of a new facility, solution of start-up problems, identifying and implementing processing and cost improvements, new product investigation, training of plant personnel, the preparation of manufacturing specifications, and the supervision of five professionals. Major accomplishments include:

1. Demonstration of a process for fabricating Pringle's extra.
2. Solution of numerous start-up problems.
3. Demonstration of new computer strategies for automatic control, including: feedforward control for raw material variations, on-line model identification, net weight control, material loss monitoring, and oil quality control.
4. Identification of new raw material supplies for improved cost and process control.
5. Demonstration of a process for recycling potato scrap

3/70- Group Leader, Fats and Oils Section
6/72

Primary responsibilities included the investigation of new formulations, identifying and implementing cost and processing improvements, process start-up, and the supervision of one to two professionals. These individuals completed studies in the winterization, refining, filtration, and hydrogenation of vegetable oils and the synthesis of emulsifiers. This work lead to significant cost and capacity improvements. Major accomplishments include:

1. Development of a process for reclaiming spent frying oils.
2. Start-up of a large vegetable oil refinery.
3. Start-up of a new deodorization process.
4. Optimization of the formula for Puritan Oil.
5. Demonstration of a new process for dewaxing vegetable oils

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10/68- Process Engineer, Fats and Oils Section
3/70

Primary responsibility was the development of new methods of vegetable oil processing. Major accomplishments include:

1. Demonstration of a new process for bleaching edible oils.
2. Demonstration of, and establishment of scale-up criteria for an improved process for the continuous hydrogenation of oils.

The First Machinery Corporation
211 10th Street
Brooklyn, New York

9/66- Design and Sales Engineer
10/68

Responsibilities included the design of mixing equipment, limited shop supervision, and the sales of new and used processing equipment.

Additional Pertinent Experience

On-campus recruiter for The Pillsbury Company and The Procter and Gamble Company.

Have reviewed many articles submitted for publication in professional journals.

Extensive programming experience in FORTRAN, Pascal, BASIC, C, and Fortran

References

Academic, industrial, and personal references will be provided upon request.

43. A sealed crustless sandwich with a periphery and comprising:
- a first bread layer having a first perimeter surface inward of said periphery; a central filling of an edible food in a defined area inside said first perimeter surface; a second bread layer juxtaposed to said central filling opposite to said first bread layer and including a second perimeter surface similar to said first perimeter surface;
 - a crimped edge free from any of said central filling and formed between said first perimeter surface and said second perimeter surface for sealing said central filling between said first bread layer and said second bread layer;
 - wherein the crust portions of said first bread layer and said second bread layer have been cut from said layers to define said periphery;
 - said crimped edge comprising a surface-to-surface compression seal of said cut bread portions, said surface-to-surface seal being inward of said periphery of said sandwich and between said first and second perimeter surfaces of said bread layers wherein the central portion of said first and second bread layers inside said compression seal remains uncompressed, said compression seal of said crimped edge being such to expose said two cut bread layers around said periphery of said sandwich; and,
 - said central filling includes a layer of jelly sealably surrounded by two layers of peanut butter, both of said peanut butter layers having

perimeter areas outside said jelly layer, but inside said perimeter surfaces of said bread layers, with flat surfaces of said perimeter areas of said peanut butter layers facing each others, wherein said facing layers of said perimeter areas of said peanut butter layers are surface-to-surface sealed together to encapsulate said jelly layer, said surface-to-surface seal of said two peanut butter layers extending outwardly from said jelly layer toward said periphery of said sandwich.

44. A crustless sandwich as defined in claim 43 wherein said crimped edge includes a spaced depression in only one of said bread layers, said depressions forming pressure points in said surface-to-surface seal to prevent said crimp edge from separating at said surface-to-surface seal.

45. A crustless sandwich as defined in claim 44 wherein said depressions in said one bread layer are spaced inwardly from said periphery.

46. A crustless sandwich as defined in claim 45 wherein said sandwich is surrounded by a hermetically sealed package to extend storage time.

47. A crustless sandwich as defined in claim 44 wherein said sandwich is surrounded by a hermetically sealed package to extend storage time.

48. A crustless sandwich as defined in claim 43 wherein said sandwich is surrounded by a hermetically sealed package to extend storage time.

49. A sealed crustless sandwich as defined in claim 48, wherein said surface-to-surface seal of said crimped edge is spaced outwardly of said central filling.

50. A sealed crustless sandwich as defined in claim 44, wherein said surface-to-surface seal of said crimped edge is spaced outwardly of said at least one filling.

51. A crustless sandwich as defined in claim 50 wherein said depressions in said one bread layer are spaced inwardly from said periphery.

52. A sealed crustless sandwich as defined in claim 43, wherein said crimped edge is spaced outwardly of said central filling.

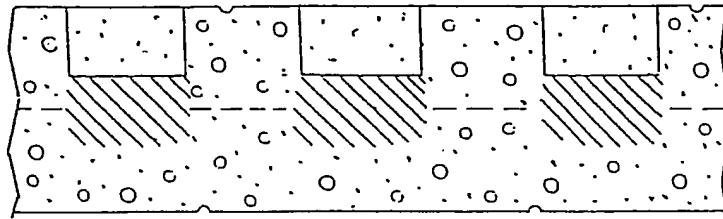


FIG. I

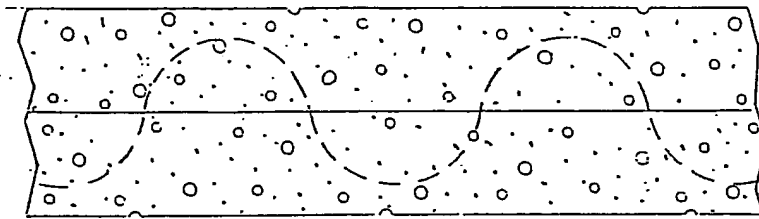


FIG. II

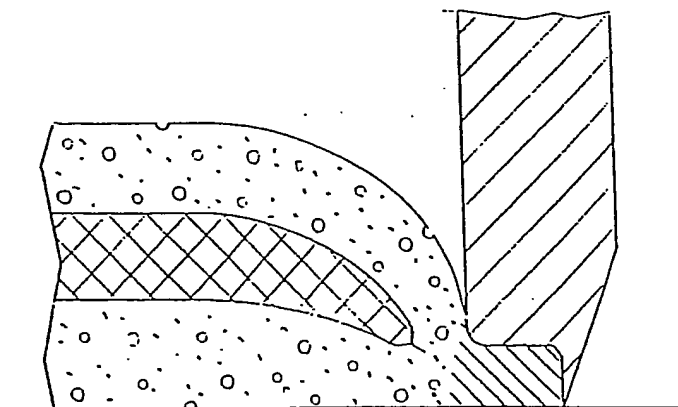


FIG. III

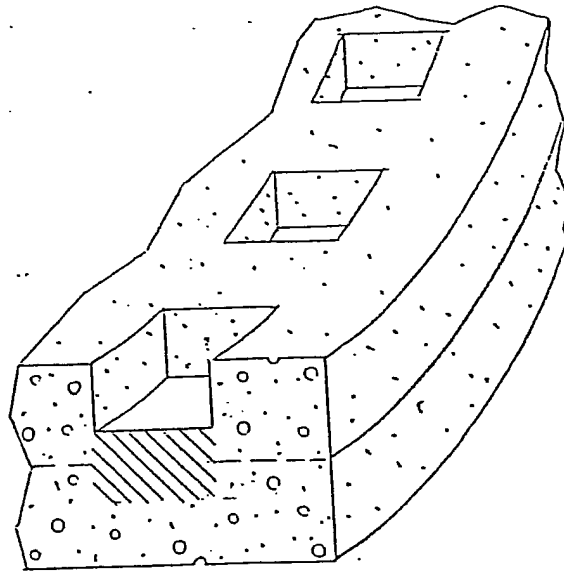


FIG. IV

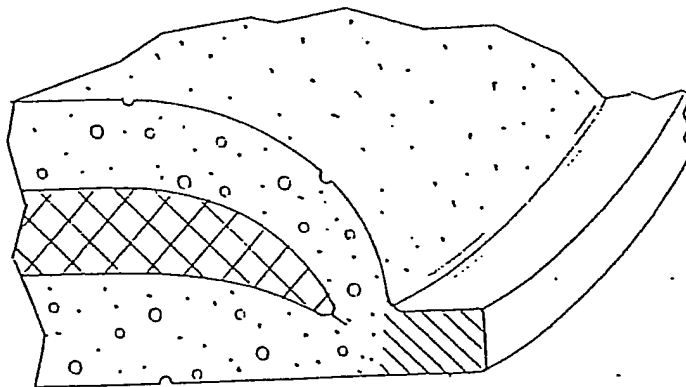
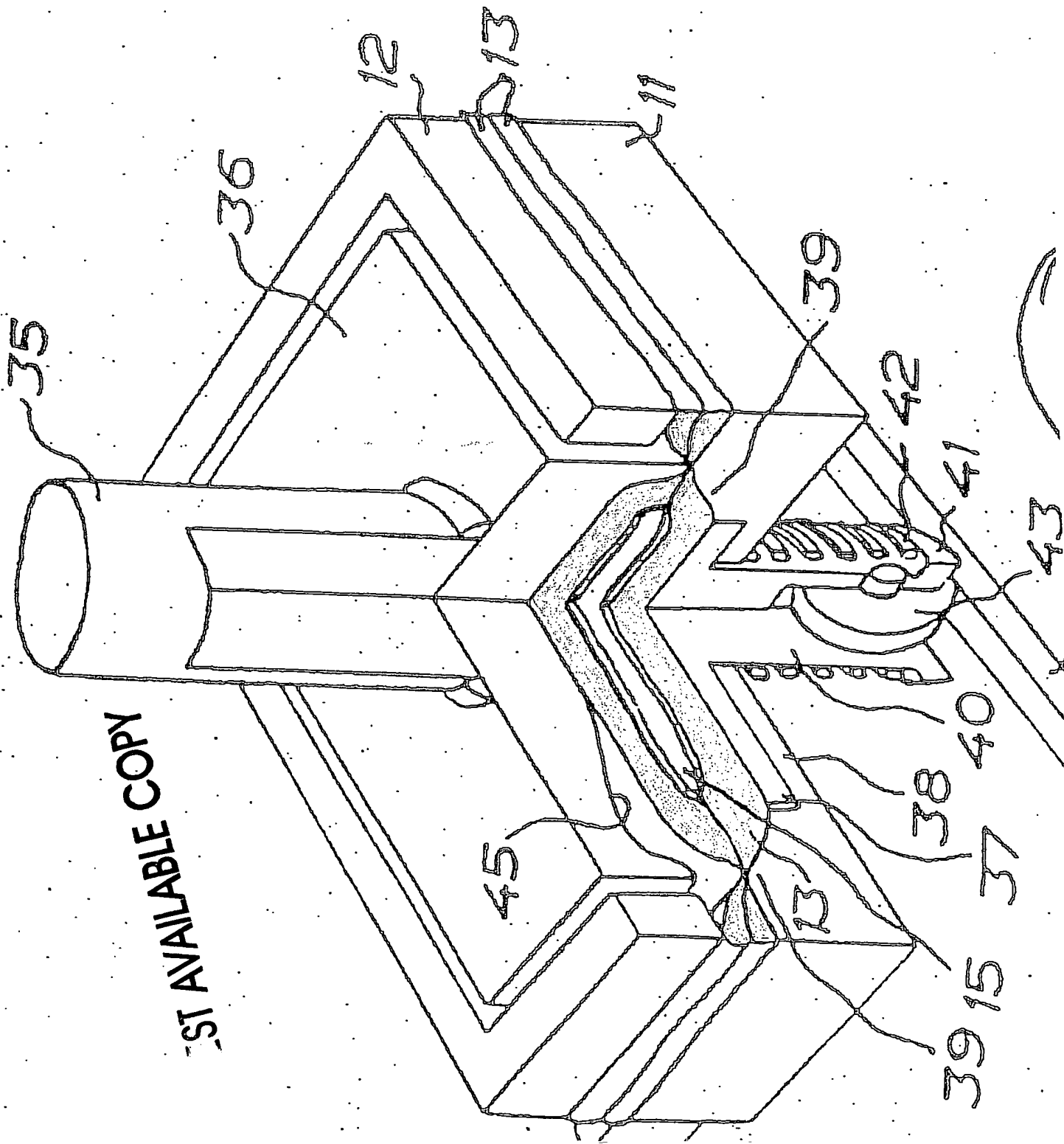


FIG. V
4,608,918

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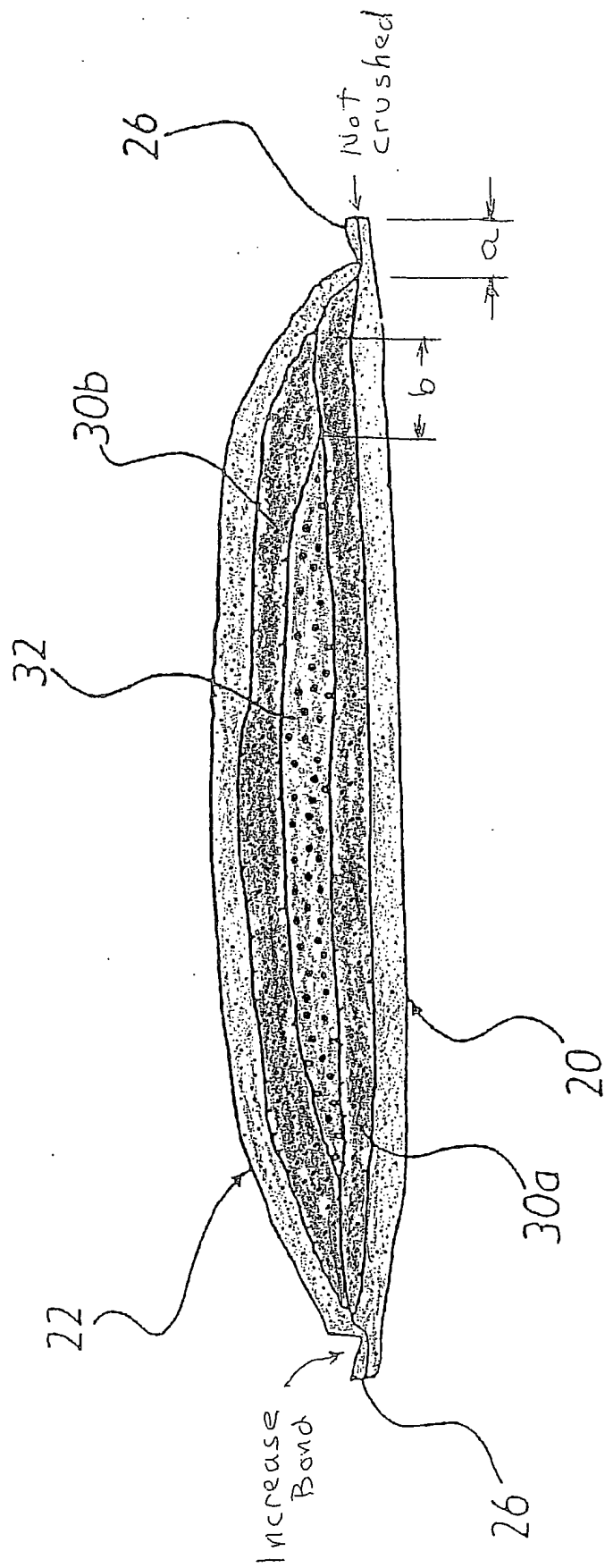


FIG. 4